



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/629,232

07/28/2003

Hsieh Kun Lee

6566

25859 7590 03/20/2007  
WEI TE CHUNG  
FOXCONN INTERNATIONAL, INC.  
1650 MEMOREX DRIVE  
SANTA CLARA, CA 95050

EXAMINER

WRIGHT, INGRID D

ART UNIT

PAPER NUMBER

2835

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/629,232

Applicant(s)

LEE ET AL.

Examiner

Ingrid Wright

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 11-15 and 17-21 is/are allowed.
- 6) ☒ Claim(s) 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office Action is persuasive and, therefore, the finality of the last Office Action is withdrawn.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as obvious over Eyman et al. US 6639800 B1 in view of Isenburg US 6741470 B2, further in view of Lai US 6381813 B1.

Re claim 16, Eyman et al. teaches a heat sink assembly (Abstract of Eyman et al.) comprising a printed circuit board (204) with an electronic package (200) located thereon and a plurality of through holes (208) therein, a retention module (30) surrounding the electronic package (200) with two projections near (31A,31B) extending outwardly near corners thereof, respectively, the retention module (30) defining an opening therein, screws (90) respectively extending through said two projections of the retention module (30) and fastened to the corresponding through holes (208) whereby the retention module (30) is fixed to the printed circuit board (204), a heat sink (20) defining a plurality of slots, the heat sink (20) having a base (bottom horizontal surface) received in the opening of the retention module (30), a plurality of fins (24) extending upwardly from the base, the slots being defined between the fins (24), a clip (10) defining

Art Unit: 2835

a rectangular shape like configuration with a pressing bar (14) extending through a slot in a in a parallel relationship and resting on fins located on a base and two pairs of locking devices (12A,12B) located at two sides of the clip (30), which are perpendicular to the pressing bar (14), and respectively latchably engaged with two sides of the retention module (30), each of which is vertically aligned with the corresponding side of the clip (10) and between a corresponding pair of said 2 projections, but is silent as to four pins respectively extending through four projections at four corners and a clip defining a rectangular frame with pressing bars resting on a base. Isenberg teaches four pins (105) extending through four corner projections, extended through a retention module (108), in positioning holes (115). Therefore, to modify Eyman et al., by employing pins, would have been obvious to one having ordinary skill in the art, since Isenberg teaches heat sink mounting assemblies having these design characteristics. The skilled artisan would be motivated to utilize the pins (105) of Isenberg over the screws (90) of Eyman et al., in order to provide an alternate means of securing or locking the module (30) to the printed circuit board (204), by providing an enhanced and stronger means of securing a heat sink assembly/retention board assembly, to prevent the securing means from sliding out (or loosening) a circuit board, and to eliminate the need of fasteners, such as screws (col. 6, lines 54-64 of Isenberg) and Isenberg is only used to provide the added limitation of four pins, four projections and 4 positioning holes.

As to a clip defining a rectangular frame with pressing bars resting on a base, Lai teaches a clip (10) defining a rectangular frame, with at least two spaced pressing bars extending through (fins) and resting on a base. Therefore, to modify Eyman et al., by employing a clip with a rectangular frame, would have been obvious to one having ordinary skill in the art at the time the invention was made, since Lai teaches a clip having these design characteristics. The skilled artisan would be motivated to combine the clip configuration of Lai with Eyman et al., in order to provide a stronger retaining means, whereby several

clamping portions (18) are used to secure the heat sink assembly (20) of Eyman et al. and Lai is only used to provide the added limitation of a clip defining a rectangular frame.

***Allowable Subject Matter***

3. Claims 1-6,11-15 & 17-21 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the allowability resides in the overall structure of the device as recited in independent claims 1 & 12, and at least in part, because claim 1 recites: "two pins positioned in the positioning holes and welded to the printed circuit board," and claim 12 recites: "two pins extending from the retention module to the printed circuit board and being welded to the printed circuit board." The aforementioned limitations in combination with all the remaining limitations of claims 1 & 12 are believed to render the claims 1 & 12 and all claims dependent therefrom patentable over the art of record.

US 6549412 B1 to Ma is considered the closest reference to the instant application. Although, Ma illustrates pins affixed to a printed circuit board, this reference can not be used in 103 rejection, as the assignee of this prior art reference is the same as the instant application.

***Response to Arguments***

4. Applicant's arguments, filed 2/9/07, have been fully considered.


Re Argument claim 16, the Examiner respectfully disagrees and notes that Eyman et al. teaches projections (31A,31B) extending from the retainer (30) and Isenburg teaches a retention module (108) and an additional board (110), which assists the retention module (108), having four projections diagonally extended from four corners.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571)272-8392. The examiner can normally be reached on M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on (571)272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IDW

  
**LISA LEA-EDMONDS**  
**PRIMARY EXAMINER**